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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,349	12/23/2003	Bryan K. Casper	INTEL-0064	4699
34610	7590	09/15/2005		
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			EXAMINER WALLING, MEAGAN S	
			ART UNIT	PAPER NUMBER
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DATE MAILED: 09/15/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/743,349	Applicant(s) CASPER ET AL.	
	Examiner Meagan S. Walling	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10-15, 18, 20-25, 27, 28 and 30-34 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 9, 16, 17, 19, 26 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/21/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 4, 5, 8, 11, 12, 14, 15, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hernandez et al. (US 6,741,953).

Regarding claim 1, Hernandez et al. teaches a first port to receive a first signal from a first channel (210); a first device, coupled to the first port, to modify a channel response of the first signal received from the first channel (220 and 230); and a waveform capture device, coupled to the first device, to capture a waveform of a signal modified by the first device (240).

Regarding claim 2, Hernandez et al. teaches that the first device comprises a filtering device and a sampling circuit (220 and 230).

Regarding claim 4, Hernandez et al. teaches that the sampling circuit samples the first signal from the channel prior to the filtering device (see Fig. 2, Ref. 220 and 230).

Regarding claim 5, Hernandez et al. teaches a second port to receive a second signal from a second channel (see Fig. 2, "Input Data"); a second device, coupled to the second port, to modify a channel response of the second signal received from the second channel (see Refs. 220

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and 230); and another waveform capture device, coupled to the second device, to capture a waveform of a signal modified by the second device (240).

Regarding claim 8, Hernandez et al. teaches that the first device includes a plurality of stages, each configured to provide separate responses (220 and 230).

Regarding claim 11, Hernandez et al. teaches a processing circuit to receive a signal across a channel and perform signal processing on the signal, the processing circuit to output a processed signal (200); and a waveform capturing device to capture a waveform of the signal based on the processed signal (240).

Regarding claim 12, Hernandez et al. teaches that the processing circuit comprises a filter device (230) and a sampling circuit (220).

Regarding claim 14, Hernandez et al. teaches that the sampling circuit samples the signal from the channel prior to the filtering device (see Fig. 2, Ref. 220 and 230).

Regarding claim 15, Hernandez et al. teaches that the processing circuit modifies a channel response of the received signal (column 3, lines 36-38).

Regarding claim 18, Hernandez et al. teaches that the processing circuit includes a plurality of stages, each configured to provide a separate response (220 and 230).

2. Claims 1, 2, 3, 8, 10, 11, 12, 13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Oprescu et al. (US 6,411,242).

Regarding claim 1, Oprescu et al. teaches a first port to receive a first signal from a first channel (12'); a first device, coupled to the first port, to modify a channel response of the first

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signal received from the first channel (52, 54, 56, 58); and a waveform capture device, coupled to the first device, to capture a waveform of a signal modified by the first device (see Fig. 6).

Regarding claim 2, Oprescu et al. teaches that the first device comprises a filtering device and a sampling circuit (56 and 52).

Regarding claim 3, Oprescu et al. teaches that the filtering device filters the first signal from the channel prior to the sampling circuit (column 1, lines 15-18).

Regarding claim 8, Oprescu et al. teaches that the first device includes a plurality of stages, each configured to provide a separate response (52, 54, 56, 58).

Regarding claim 10, Oprescu et al. teaches that the signal comprises a differential signal (column 4, line 48).

Regarding claim 11, Oprescu et al. teaches a processing circuit to receive a signal across a channel and perform signal processing on the signal, the processing circuit to output a processed signal (50); and a waveform capturing device to capture a waveform of the signal based on the processed signal (see Fig. 6).

Regarding claim 12, Oprescu et al. teaches that the processing circuit comprises a filter device (56) and a sampling circuit (52).

Regarding claim 13, Oprescu et al. teaches that the filtering device filters the signal from the channel and prior to the sampling circuit (column 1, lines 15-18).

Regarding claim 18, Oprescu et al. teaches that the first device includes a plurality of stages, each configured to provide a separate response (52, 54, 56, 58).

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3. Claims 20-22, 24, 25, 27, 28, 30-32, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Griffin, Jr. et al. (US 6,657,071).

Regarding claim 20, Griffin, Jr. et al. teaches receiving a signal from a channel (column 10, lines 53-55); modifying a channel response of the received signal (column 10, lines 57-59); and capturing a waveform of a signal having the modified channel response (column 10, lines 66-67).

Regarding claim 21, Griffin, Jr. et al. teaches that modifying the channel response includes performing a filtering operation on the received signal (see. Fig. 5a, Ref. 114).

Regarding claim 22, Griffin, Jr. et al. teaches a sampling operation of the received signal (column 10, lines 57-59).

Regarding claim 24, Griffin, Jr. et al. teaches that the sampling operation of the received signal occurs prior to the filtering operation (Fig. 5a, Refs. 111 and 113).

Regarding claim 25, Griffin, Jr. et al. teaches that the filtering operation includes dividing the received signal into a plurality of stages (113, 114)

Regarding claim 27, Griffin, Jr. et al. teaches that the filtering operation further includes combining filtered responses (113, 114).

Regarding claim 28, Griffin, Jr. et al. teaches that capturing the waveform includes sampling the combined filtered response (column 10, lines 66-67).

Regarding claim 30, Griffin, Jr. et al. teaches receiving another signal across another channel (see Fig. 5a, Ref. V<sub>A</sub>); modifying a channel response of the received another channel (column 10, lines 57-59); and capturing a waveform of a signal having the modified channel response (column 10, lines 66-67).

Regarding claim 31, Griffin, Jr. et al. teaches an integrated circuit including a port to receive a signal from a channel (column 10, lines 53-55), a processing device, coupled to the port, to modify a channel response of the signal received from the channel (column 10, lines 57-59); and a waveform device, coupled to the processing device, to capture a waveform of a signal modified by the processing device (column 10, lines 66-67); and a network interface to couple the integrated circuit to a network (column 10, line 33).

Regarding claim 32, Griffin, Jr. et al. teaches that the processing device comprises a filtering device (113) and a sampling circuit (111).

Regarding claim 34, Griffin, Jr. et al. teaches that the sampling circuit samples the received signal from the channel prior to the filtering circuit (113).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 23 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griffin, Jr. et al. in view of Oprescu et al.

Griffin, Jr. et al. teaches all of the limitation of claims 23 and 33 except the limitations that the filtering device filters the received signal from the channel prior to the sampling circuit.

Oprescu et al. teaches filtering a signal before sampling it (column 1, lines 15-18).

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It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Griffin, Jr. et al. with the teachings of Oprescu et al. to filter before sampling. The motivation for making this combination would be reduce time by sampling only the desired portion of the waveform.

*Allowable Subject Matter*

5. Claims 6, 7, 9, 16, 17, 19, 26, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claims 6, 16, and 26 is the inclusion of the limitation that the filtering device includes a plurality of voltage-to-current converters and a plurality of current multipliers coupled in a plurality of stages. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.

The primary reason for the indication of allowability of claims 9, 19, and 29 is the inclusion of the limitation that the waveform capture device includes a variable offset to skew a reference current. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art that makes these claims allowable.


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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S. Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
MICHAEL NGHIEM  
PRIMARY EXAMINER

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